



CSTC 2003-B
***“CSTC Identification and
Analysis of DOE Chemical
Incidents”***

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- *Team Members*

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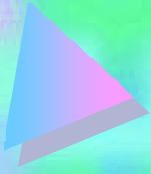
WSRC

Robert Vrooman

DOE-NNSA

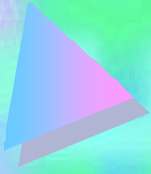
Dan Stachelski

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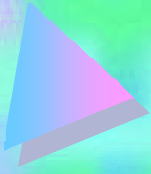
Why?

- *The Complex is averaging one reported chemical incident/day since 1993.*
- *10 to 12% of all ORPS reports are classified as chemical.*
- *12 to 13% of all type A & B accidents have been classified as chemical related since 1984.*



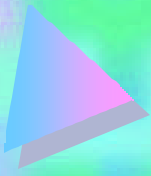
Goal

Analyze available data than determine the commonality and causes of chemical incidents across the DOE complex. The team will make recommendations which will be presented to the CSTC and EFCOG.



Schedule

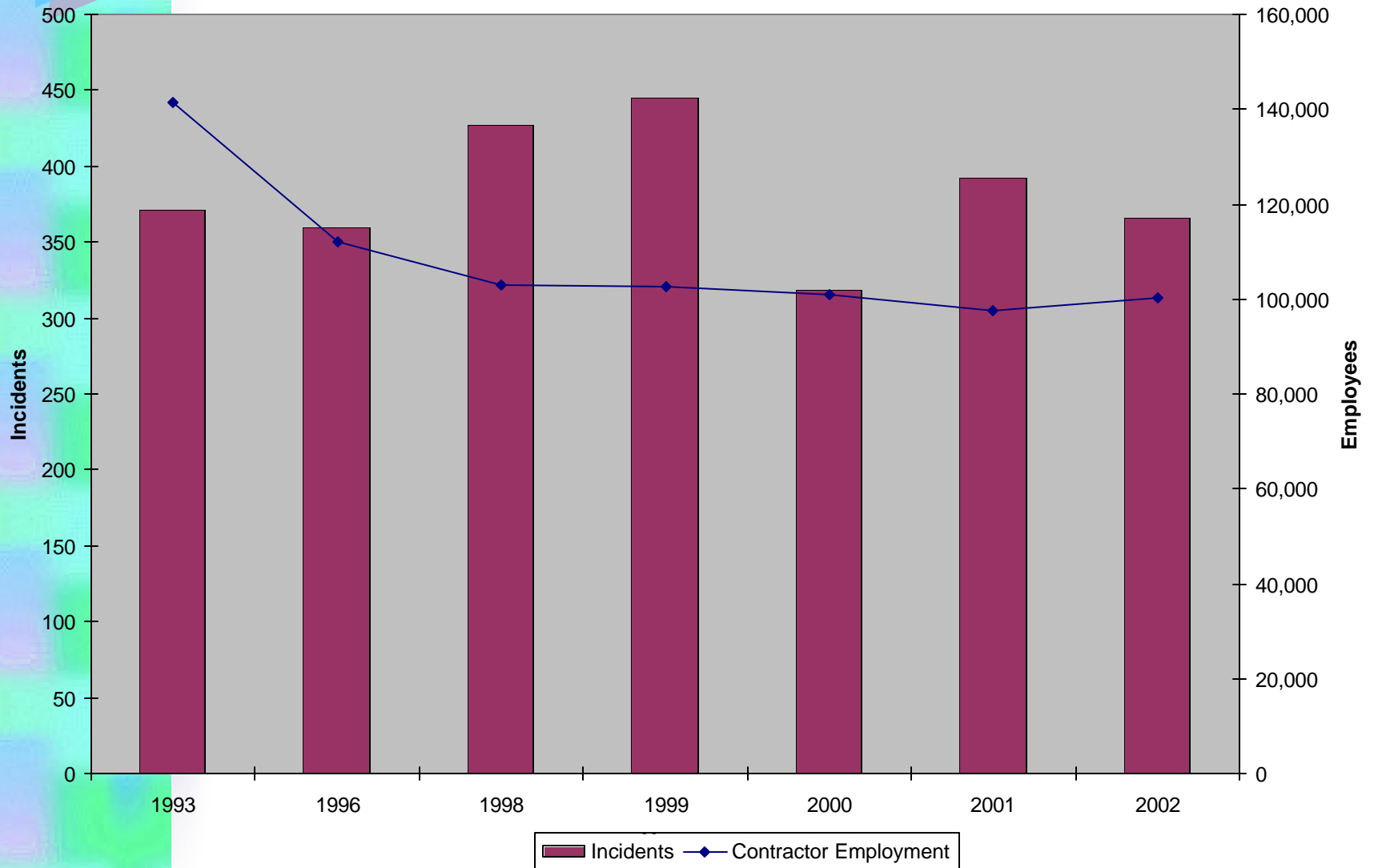
- *10/02 Team Chartered.*
- *12/02 Collect & Distribute Incident data.*
- *1/03 Kick-off phone call.*
- *4/03 Complete analysis.*
- *6/03 Develop final recommendation.*
- *9/03 Complete presentation.*
- *11/03 Final Report to CSTC.*



Data

- *Reviewed over 2000 Chemical incidents.*
- *Culled the list to the top 500 that involved safety and health issues.*

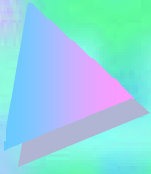
Incidents & Employment





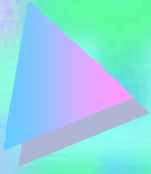
\$ Costs/Year \$

- The low end annual cost of chemical incident reporting is estimated as follows:*
- 88% "off - normal" incidents:*
 $365 \times 0.88 \times \$ 4000 = \$ 1,284,800.$
- 11% "unusual" incidents:*
 $365 \times 0.11 \times \$12000 = \$ 481,800.$
- <1% "emergency" incidents:*
 $365 \times 0.01 \times \$20000 = \$ <73,000.$
Subtotal $= \$ 1,839,600.$
- Type A&B investigations:*
 $1.7 \times \$162,000 = \$ 275,400.$
Total $= \$ 2,115,000.$
- Human and Political Costs Unknown.*



One Glaring Weakness

- *Failure to Identify the Hazard.*



Why?

- *Applicable personnel not involved.*
- *Independence less than adequate.*
- *Correct output not applied.*
- *Hazard analysis ignored.*
- *Incorrect determination of low potential event.*
- *Degree of change insufficient to justify new analysis.*



Why?

- *Ego.*
- *Upset conditions not considered in the analysis.*
- *Incorrect or inaccurate information used.*
- *Unpredictable situation.*
- *Less than adequate analysis methodology.*
- *Lack of ownership.*
- *Culture.*



Conclusion

- *You can't analyze the hazard, if the hazard has not been identified.*
- *We need to reassess and reinforce hazard identification in ISMS.*
 - *More emphasis on hazard identification across the DOE complex.*
 - *Better training of personnel in proper hazard identification.*
- *The human & \$ cost is worth the effort.*



Where do we go from here???